KE XU

k92xu@uwaterloo.ca | kexu.space | https://www.linkedin.com/in/ke-xu-9118921bb/ | https://github.com/kexu02

EDUCATION

University of Waterloo | **Bachelor of Software Engineering** Apr 2022 - Apr 2025

Courses: Database Management / Design (SQL), Data Structures and Algorithms, OOP Programming (C++)

SKILLS

Languages: JavaScript, C++, SQL, Python, Java, C, HTML, CSS

Tools: Node, React, Redux, MongoDB, PostgreSQL, GCP, AWS, Docker, Kubernetes, Mockito

CERTIFICATES

AWS Certified Cloud Practitioner Apr 2022 - Apr 2025

EXPERIENCE

Enlighted | **IoT Software Developer** Jan 2022 – Apr 2022

- Developed a gateway simulator application using **GCP Kubernetes Engine** and **Selenium** in **Java** and **Python**, reducing setup time for scalability testing by **84%** and manual handling time to **0** seconds
- Implemented sensor data streaming with **Apache Kafka**, and automated the process of health checking, proactively monitoring the performance of the sensors
- Built the statistics webpage for Enlighted's smart lighting system using **React**, **Redux** and **Jest**, allowing customers to track product energy consumption graphically

Quali AI | **Software Developer** May 2021 – Aug 2021

- Built critical features for AIXEL's web application using **MongoDB**, **Express**, **React TypeScript**, enabling customers to collect, label, and analyze over **10,000** photos
- Spearheaded the development of data pipelines and robust **REST APIs** using **Node**, **Flask**, and **Google Cloud Pub/Sub** to implement data streaming between devices and server
- Automated the process of building, end to end testing, and deploying machine learning models using **Python**, **Docker**, and **Google Cloud AutoML Vision**, significantly decreasing modeling times

PROJECTS

TTDO | **JavaScript • MongoDB • HTML/CSS** Jan 2022 – Apr 2022

- Built and deployed a task management system which allows users to input information and displays the obtained data on the calendar on **Heroku** with **MongoDB**, **Node** and **EJS/HTML**
- Integrated Google API and implemented **OAuth2.0** login/signup workflow with **Passport.js** and Google SSO to encrypt user information

ITrash | **Python • C++ • OpenCV • Raspberry Pi • Arduino** Sept 2020 - Dec 2020

- Collaborated with a team of four students to develop an autonomous trash can to catch projectile garbage, making it convenient for users to throw trash
- Developed object landing time estimation feature with an **80%** accuracy using **Python** and kinematics
- Obtained location data at different time frames through image analysis with the **Raspberry Pi** camera module, **Python**, and **OpenCV** for object detection and tracking